

### **REMARKS**

Claims 1-29 were in the application as last examined. By the foregoing amendments, claims 1-11 and 16-29 are amended and claims 12, 13, and 15 are canceled without prejudice. No subject matter is to be considered as abandoned (e.g. with respect to the right to file a divisional application) by virtue of the aforementioned amendments. Furthermore, the Applicant is of the opinion that the application has not been amended in such a way that it contains subject matter that extends beyond the content of the application as filed. Claims 1-11, 14, and 16-29 remain in the application. Further examination and consideration of the remaining claims is respectfully requested.

### **Objections**

Claims 4 and 19 are objected to because of informalities. The equations forming the basis of the objections have been deleted from the claims in the foregoing amendments. It is respectfully submitted that the objections are now moot.

### **Non-Statutory Subject Matter**

Claims 16-29 stand rejected as being directed to non-statutory subject matter under 35 U.S.C. §101. The rejections are respectfully traversed.

It is believed that claim 16 as amended is well within the requirements of statutory subject matter under §101. The claim is drawn to an apparatus (i.e. “machine” in the language of §101), with positive structural limitations. Inasmuch as claim 16 constitutes statutory subject matter, claims 17-28 depending therefrom also constitute statutory subject matter.

Claim 29 is rewritten into independent form and likewise constitutes statutory subject matter. It is drawn to a communication system (i.e. “machine” in the language of §101), with positive structural limitations.

### **Rejections under §112**

In response to the Examiner's objection to Claim 15 in paragraph 8 of the Office Action, the Applicants respectfully submit that the intention of Claim 15 is to provide protection for the case when the system as described in the patent application is adapted to be used as part of an existing network simulator.

In response to the Examiner's objection to Claim 29 in paragraph 8 of the Office Action, the Applicants respectfully submit that the intention is to claim protection for the case when the system as described in the patent application is integrated as part of the network being simulated.

It is believed that the foregoing amendments have rendered each of the rejections of the remaining claims under §112 moot. All of the asserted claims have been amended to accommodate the issues raised by the Examiner.

### **Rejections under §103**

Claims 1-6, 8-27, and 29 stand rejected under 35 U.S.C. §103 as being unpatentable over admitted prior art in view of U.S. Patent No. 5,233,628 to Rappaport et al. The rejections are respectfully traversed.

With respect to Claim 1, the Office Action indicates that employing a simulation tool to resolve a mathematical formula relating to an operation of the communication network is known from the AAPA. The Office Action then suggests that Rappaport teaches the feature of resolving one or more iterative mathematical formula in hardware with a hardware platform of the simulation tool. Thereafter, the Office Action suggests that it would be obvious to one of ordinary skill in the art to combine the teachings of the AAPA and Rappaport to produce the claimed invention.

In contrast to the suggestion in the Office Action, Rappaport does not describe any technique for solving an iterative set of formulae. Indeed, and notably, it is respectfully submitted that Rappaport's hardware does not solve any mathematical formula, it merely modifies a given input data stream (Rappaport, col. 6, lines 14-18).

Consequently, and notably, Rappaport also fails to teach, any method of solving an iterative mathematical formula in hardware.

Thus, it is respectfully submitted that the subject matter of Claim 1, Claim 16 and Claim 29 differs over the cited art of both the AAPA and Rappaport in that Claim 1, Claim 16 and Claim 29 resolve the at least one *iterative* mathematical formula(e) in hardware.

Furthermore, the Office Action suggests that Fig. 4 of Rappaport describes a ‘hardware’ implementation. It is respectfully submitted that this view is erroneous, as Fig. 4 of Rappaport describes a model that is implemented in software (see at least Rappaport col. 7 lines 11 onwards).

Thus, it is respectfully submitted that the subject matter of Claim 1, Claim 16 and Claim 29 differs over the cited art of both the AAPA and Rappaport in that Claim 1, Claim 16 and Claim 29 resolve the at least one *iterative* mathematical formula(e) in **hardware**.

In contrast to the suggestion in the Office Action, it is respectfully submitted that Rappaport fails to disclose the claimed feature of: ‘... [resolving] the at least one *iterative* mathematical formula(e) in hardware by varying an electrically variable input signal by a plurality of interconnected electronic components in a hardware platform of the simulation tool’. In contrast to the claimed invention, Rappaport suggests modifying input **data bits** by introducing user-defined random errors (see at least Rappaport Fig. 3 and col. 4 lines 53-66). In particular, Rappaport teaches that a hardware platform can be used to process data in a certain way: two sources of digital data, one provided externally and one provided by software, are combined in a given way (Exclusive-OR’d) (see at least Fig. 3 of Rappaport) to generate an output data stream.

Thus, it is respectfully submitted that the subject matter of Claim 1, Claim 16 and Claim 29 differs over the cited art of the AAPA and Rappaport in that Claim 1, Claim 16 and Claim 29 detail ‘... [resolving] the at least one *iterative* mathematical formula(e) in hardware by varying an electrically variable input signal by a plurality of interconnected electronic components in a hardware platform of the simulation tool such that an **output**

***signal of the interconnected electronic components has resolved*** the at least one iterative mathematical formula(e) in hardware ***without employing multiple iteration(s)***.

For completeness, it is respectfully submitted that no other known or cited art teaches any of these claimed distinguishing features, and therefore only further serve to describe the prior art acknowledged in the background section of the patent specification.

Notably, these aforementioned distinguishing features solve the problem of “how to design or simulate a communication network more efficiently taking into account the complex interdependence between power levels of base stations and mobile terminals, inextricably defined by a plurality of time consuming iterative formulae”.

As clearly described throughout the present application, the time taken to simulate or design a communication network is lengthy, complex and hugely problematic. Furthermore, *all* of the cited art teach a software-based solution that resolves the complex iterative mathematical formulae using ‘*iterative*’ software algorithms. This technical problem was inherent within the industry, prior to the teaching of the claimed present invention, as no alternative solution had been deemed possible.

However, when employing the inventive concept of the present application, a communication network can now be designed or simulated in a fraction of the time. Thus, it is respectfully submitted that the aforementioned distinguishing features of using a plurality of electronic components in the hardware platform that vary an electronically variable input signal such that an output signal from the plurality of electronic components has resolved the one or more iterative mathematical formula(e), clarify that there is a significant and clearly inventive technical contribution over the known art.

Hence, it is respectfully submitted that an invention in accordance with amended Claim 1, Claim 16 and Claim 29 is not disclosed in any of the cited documents, nor can all the features of Claim 1, Claim 16 and Claim 29 be derived from any reasonable combination of the features disclosed in the documents in isolation or, in combination with each other, and/or in combination with the known prior art. As such, Claim 1, Claim 16, Claim 29 and any Claim dependent thereon is both novel and inventive with regard to the cited art.

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For: COMMUNICATION NETWORK AND METHOD FOR SIMULATING OR DESIGNING THEREOF  
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### CONCLUSION

It is therefore submitted that the claims as amended address all of the Examiner's objections set forth in the Office Action, that the rejections have been successfully traversed and that the application should proceed to grant.

If there are any issues that the Commissioner thinks may be resolved by way of telephone conference or email, he is cordially invited to contact the undersigned to resolve these issues.

Respectfully submitted,

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Dated: August 15, 2008

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